

REMARKS

Claims 1-20 remain in the application.

No claims are amendeded.

A. 35 U.S.C. 112 Rejection:

Claims 3, 6, 8-10, 16, and 18-20 were rejected under the first paragraph of 35 USC 112 for not complying with the enablement requirement. This rejection is respectfully traversed.

The Final Office Action indicates on page 2 that with respect to claims 3, 6, 9-10, and 16 the examiner is not certain how or why the feedback voltage signal is added to the input power signal, and that the examiner "maintains that the specification provides insufficient support as to how or why one of ordinary skill in the art would use the claimed invention". The Final Office Action further indicates in the last paragraph of page 8 through the top of page 9 that the portions cited in applicants' previous response seem incorrect, and additionally that a) the drawings do not show this feature and b) the disclosure does not provide one of ordinary skill in the art with a utility or way to use this summation. This rejection is respectfully traversed.

There was a pagination error between applicants' copy of the specification and the PCT version of the specification which resulted in citing incorrect page and line numbers in the previous response, the proper page and line numbers are cited in this response. We apologize for the error in the previous page and line numbers.

The first paragraph of 35 USC 112 requires that the specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. Subsequent court cases have held that this includes that the one skilled in the art has to be able to make the invention without undue experimentation. The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. Also, the scope of enablement only has to bear a "reasonable correlation" to the scope of the claims. As will be seen further hereinafter, it is respectfully submitted that Applicants' specification enables one to practice the invention without undue experimentation and that Applicants' specification bears at least a reasonable correlation to the scope of the claims. Applicant does not have to provide evidence sufficient to establish that an asserted utility is true "beyond a reasonable doubt.", evidence will be sufficient if, considered as a whole, it leads a person of ordinary skill in the art to conclude that the asserted utility is more likely than not true.

Relating to the Final Office Action statement on page 8 that the summation of the two signals is not shown in the drawing, applicant again submits that examples of such a summation are clearly illustrated in the drawings and that such is supported in the specification which describes an example of adding two signals on at least on page 5, line 34 through page 6, line 35, and particularly on page 6, lines

4-10, where the specification states that "currents 33 and 67 are SUMMED together at a node 55". Thus, node 55 in FIG. 1 illustrates at least one example of summing the signals together. Consequently, this element is illustrated in the drawings and at least the above cited sections of the specification explains one method of implementing the summation. A way to use this summation to maintain the output voltage substantially constant is described in the remainder of the cited sections. Accordingly, it is respectfully requested that this rejection be withdrawn.

Furthermore, applicants' specification explains several reasons why it is desirable to perform such a function. At least one reason why the feedback voltage signal is added to the input power signal is explained on page 12, lines 2-16.

The comments on page 2 of the Final Office Action relies on the fact that the Examiner can't seem to find an adder element in FIG. 2 and the one in FIG. 3 is not connected to the power signal, and further relies on the units being unequal, and that the examiner is not certain how or why the feedback voltage signal is added to the power input signal. Portions of both the specification and the drawings that explain examples of adding two signals are explained in the previous two paragraphs above and the "how" is also explained therein. It is respectfully submitted that there is no requirement in 35 USC 112 that the specification teach "why" one would want to use the invention, yet that is what is being stated in the Final Office Action. Even if there were such a requirement, the sections of the specification cited in the previous paragraph explain to one skilled in the art "why" such is desirable. Accordingly, it is respectfully submitted that

this requirement in the Final Office Action should be withdrawn.

As for the argument relating to unequal units, please note that claim 3 only calls for adding the two signals together. The signals don't have units, thus, can easily be added. As stated hereinbefore, the specification describes at least one example embodiment where the two signals are currents. It is easy for one skilled in the art to understand how to add two currents together.

Consequently, applicant respectfully submits that the cited sections of the specification prove at least that the utility asserted in the specification is more likely than not true.

If the Examiner is to be considered to have personal knowledge of the usefulness to one skilled in the art and to be aware of the level of such skilled artisan, an affidavit detailing the Examiner's knowledge is hereby requested under 37 C.F.R. 1.104(d)(2).

Accordingly, it is respectfully submitted that this rejection of claims 3, 6, 8-10, 16, and 18-20 should be withdrawn.

Claims 8 and 20, and 18-19:

Claims 8 and 20 were rejected under 35 U.S.C. 112 first paragraph for being unclear because the claims discuss dividing an input power signal by the voltage feedback signal. The Final Office Action states on page 9 that the specification does not provide adequate disclosure. The Final Office Action states on page 2 that "the Examiner cannot ascertain how one of ordinary skill in the art would employ this feature in applicants' invention."

First, it is respectfully submitted that being "unclear" is different than the specification not being enabling. It is respectfully submitted that an "unclear" rejection is properly given under 35.S.C. 112 second paragraph NOT the first paragraph. It is well established that even if it is a formidable task to understand a claim, and the result not unanimously accepted, as long as the boundaries of a claim may be understood it is "sufficiently clear to avoid invalidity [for] indefiniteness." Claims are indefinite "if reasonable efforts at claim construction prove futile," that is, if a claim "is insolubly ambiguous, and no narrowing construction can properly be adopted." Thus, a claim can not be unclear (thus indefinite) just because the Examiner doesn't understand how something works. Accordingly, this rejection of claims 8 and 20 is improper and should be withdrawn.

Even if the rejection is proper, it is respectfully submitted that applicants' specification explains how the skilled artisan would use the claims elements. As indicated hereinbefore, the claims do not have to explain to the Examiner how the elements called for in the claim operate or to give a technical explanation of the elements. It is respectfully submitted that Applicants' specification bears at least a reasonable correlation to the scope of the claims and that this is all that is required.

The Examiner further indicates on page 9, that the specification does not provide sufficient support for one skilled in the art to derive any use from this value. Applicant refers to the specification on page 11, lines 14-27 and particularly to lines 17-23, and further refers to at least page 12, lines 4-16, to determine the usefulness of using the input power and the output voltage and why one

skilled in the art would see an advantage in using applicants' inventions.

If the Examiner is to be considered to have personal knowledge of the usefulness to one skilled in the art and to be aware of the level of such skilled artisan, an affidavit detailing the Examiner's knowledge is hereby requested under 37 C.F.R. 1.104(d)(2).

Claims 18-19 were rejected for being likewise unclear. The Final Office Action states on page 3 that "The claims discuss comparing the input power signal to the feedback voltage. As stated above, this does not appear in the drawings and the examiner is uncertain how this concept is related to applicants' invention."

As applicant stated in the previous five paragraphs regarding to the rejection of claims 8 and 20, this rejection under the first paragraph of 35 U.S.C. is improper and should be withdrawn.

Even if the rejection of claims 18-19 is proper, it is respectfully submitted that this statement in the Final Office Action is NOT what is stated in claim 18. Claim 18 calls for the specific elements of "an amplifier coupled to receive the power signal and the feedback signal and responsively form a voltage on an output of the amplifier". Claim 18 does not call for comparing signals together. Thus, claim 18 has different elements than referred to in the Final Office Action.

Claim 19 includes, "a comparator coupled to receive the current sense signal and the voltage on the output of the amplifier and modulate a duty cycle of the drive pulses". Thus, claim 19 also includes more detailed elements than referred to in the Final Office action. Thus, claims 18 and

19 do not discuss anything in general terms but call for specific elements coupled in specific ways.

The Final Office Action indicates on page 3 that these elements are not shown in the drawings. This is simply not correct. At least FIG. 1 shows an amplifier 52 and a comparator 56 coupled as called for y claims 18 and 19. Thus, these statements in the Final Office Action are incorrect. The Final Office Action also indicates that the units would be incorrect, however, the elements operate on signal and the signals do not have units. Additionally, the claims does not call for units.

As indicated hereinbefore, if the Examiner is unclear as to how these elements relate together, the Examiner is referred to the Specification for a better understanding of the details of the drawings and the operation thereof.

Claim 6

Claim 6 was rejected under 35 U.S.C. 112 first paragraph for being identical in scope to claim 9. This rejection is respectfully traversed. It is respectfully submitted that a rejection under the first paragraph of 35 U.S.C. 112 is inappropriate for a rejection of identical scope. Thus, this rejection should be withdrawn because it is improper.

Even if the rejection is proper, it is well established that all claim elements must be included when examining a claim. Please note that claim 9 includes an additional element (a power factor feedback signal) that is not included within claim 6. Thus, the scope of claims 6 and 9 are different. Accordingly, it is respectfully submitted that this rejection of claim 6 should be withdrawn. Even though the Examiner believes that claim 6 forms the same

signal, that element is NOT included within the limitations of claim 6. The examiner can not read something into claim 6 that is not there.

Accordingly, it is respectfully submitted that all these rejections of claims 3, 6, 8-10, 16, and 18-20 should be withdrawn.

B. First 35 U.S.C. 103 Rejection:

Claims 1-2, 5, 7, 11, and 15 were rejected under 35 U.S.C. 103 over U.S. patent no. 5,481,730 issued to Brown et. al. ("the '730 patent") in view of U.S. patent no. 5,726,901 issued to Brown et. al. ("the '901 patent"). This rejection is respectfully traversed. Claim 1 calls for, among other things, calculating an input power of a power supply system; and using the input power to regulate an output voltage. Both the '730 and the '901 patents are silent on these elements of claim 1, and the combination of the two references can not teach or suggest these claim elements.

First, it is respectfully submitted that the references are improperly combined. The '730 patent does not teach or suggest that the input power should be calculated. In fact, the '730 patent teaches against the combination by teaching that the input current and voltage is merely monitored. There is no motivation to multiply these two signals together because the '730 patent teaches in column 2, lines 24-37, that it is important to measure the instantaneous bulk DC voltage and the average input current and report the status of these signal to the microcomputer. Thus, combining these two signals into one power signal would defeat the purpose of the '730 patent. Accordingly, there is no motivation leading one from the '730 patent to the

'901 patent. Monitoring is NOT the same as multiplying. As stated previously, the '730 patent teaches against such a multiplication, thus, there is no motivation to combine them. It is respectfully requested that the improper combination be withdrawn.

Even if the references are properly combined, claim 1 includes, calculating an input power of a power supply system, and using the input power to regulate an output voltage. Both the '730 and the '901 patents are silent on these elements of claim 1, thus, the combined references can not teach or suggest these elements of claim 1. The Final Office Action indicates in the first full paragraph of page 11 that a) the '730 patent does not disclose an input power calculation, and that b) applicants' invention as a whole are obvious in light of the references and ordinary knowledge in the art.

The statement in part b) indicates that the examiner is asserting (on page 11 of the Final Office Action) to have personal knowledge of the ordinary knowledge in the art. It is respectfully submitted that when a rejection is based on facts within the personal knowledge of the examiner and when called for by the applicant, the facts must be supported by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. Such an affidavit of the examiner is hereby requested under 37 CFR 1.104(d)(2).

It is respectfully submitted that all claim terms are presumed to have meaning in a claim, thus, the claim 1 elements of calculating an input power of a power supply system, and using the input power to regulate an output voltage must be included in determining the differences between claim 1 and the prior art. Even if the '730 and

'901 patents are combined, at least these elements of claim 1 are not taught or suggested by the combined references. As admitted on page 11 of the Final Office Action, the '730 patent does not teach or suggest calculating an input power nor does it teach or suggest using such a calculated power to regulate an output voltage. The '901 patent merely teaches that the input power should be calculated and that this information should be sent to a microprocessor. The '901 patent does not teach or suggest using the input power to regulate an output voltage. It is respectfully submitted that the Final Office Action offers no evident to support the arguments that the cited elements of claim 1 are obvious over the cited references. Merely stating that it would have been obvious to do what applicant is claiming does not make up for the deficiencies of the relied on references. It is respectfully submitted that references are required to support a prior art rejection. Such omitted art is requested under MPEP 706.02(a).

The Final Office Action also states on page 4, that the '730 patent discloses "determining an input voltage and current" and "Using the input voltage and current to regulate an output voltage". This statement in the Final Office Action is NOT what is called for by claim 1. Claim 1 calls for calculating the input power. Furthermore, the '730 patent teaches that the input voltage and current are monitored and status reports are provided to a computer. The '730 patent is silent on using these signals or the values thereof to calculate the input power and is silent on using the power signal to regulate the output voltage. The '730 patent clearly teaches in column 4, lines 56-62, that the '730 patent uses the value of the output voltage to control the output voltage and current. Even though the '730 patent teaches to monitor the input voltage and

current, it is silent on calculating the input power and using the value of the input power to regulate the output voltage. It merely monitors such to determine operating parameters to test if the power supply is operating properly.

Also, the '901 patent teaches using the input power to drive an LED or to supply data to a microprocessor. The '901 patent is silent on using the input power to control the drive pulses of a PWM (See FIG. 1 where the input power is not used by the PWM and in FIG. 2 where the input power is provided to the NE555 timer and not to the PWM).

A patent is valid as a reference only for what is taught by the reference. It is respectfully submitted that in this case, none of the references, either singularly or combined teach or suggest using the input power to regulate the output voltage. Accordingly, it is respectfully submitted that the combined relied on references are deficient in making claim 1 obvious.

Claim 2 depends from claim 1 and is believed to be allowable for at least the same reasons as claim 1. Additionally, claim 2 calls for using the input power to modulate drive pulses to a power switch of the power supply system. The Final Office Action indicates on page 4 relating to claim 2 that the '730 patent "discloses that PWM signals may be used to control a power switch". However, claim 2 calls for using the input power to modulate drive pulses. The '730 patent does not teach or suggest these elements of claim 2. It is respectfully submitted that all elements of a claim must be used when examining a claim. Accordingly, it is respectfully submitted that the combined

relied on references are deficient in making claim 2 obvious.

Claim 5 includes, among other things, form a power signal representative of an input power and coupling the power supply controller to form drive pulses to regulate the output voltage responsively to the power signal and the feedback signal. Neither of the combined relied on references teach nor suggest at least this element of regulate the output voltage responsively to the power signal and the feedback signal. As indicated in the traversal of the 35 U.S.C. 103 rejection of claim 1, both of the combined references are silent on regulate the output voltage responsively to such a power signal and the feedback signal. Accordingly, it is respectfully submitted that claim 5 is not made obvious by the combined relied on references.

Claims 7 and 11 depend from claim 5 and are believed to be allowable for at least the same reasons as claim 5 and claim 1.

Claim 15 calls for, among other features, an error block of the power supply controller coupled to receive the power signal, a feedback signal, and the current sense signal and responsively control the PWM controller to form the drive pulses. The Final Office Action states on page 5 at the bottom that the '730 patent discloses "receive the power signal, a feedback signal, and the current sense signal and responsively control the PWM controller" and cites to column 1, lines 56-63, column 3, lines 30-47, column 4, lines 56-67, and column 5, lines 5-29. None of the cited sections teach or suggest an error block coupled

to receive the power signal, a feedback signal, and the current sense signal. Just because the '730 patent monitors the voltage and current signals does not mean that it forms a power signal that is representative of the input power and forms drive pulses responsively thereto. Additionally, the '901 patent merely teaches using the input power to drive an LED or a microprocessor and is silent on using the input power to control the drive pulses of a PWM (See FIG. 1 where the input power is not used by the PWM and in FIG. 2 where the input power is provided to the NE555 timer and not to the PWM). The combined relied on references do not teach or suggest coupling an error block to receive these signal and then to regulate the output voltage responsively thereto. Accordingly, it is respectfully submitted that the combined relied on references do not make claim 15 obvious.

C. Second 35 U.S.C. 103 Rejection:

Claims 4, 12, and 17 were rejected under 35 U.S.C. 103 over the '730 patent in view of the '901 patent and further in view of U.S. patent no. 5,315,533 issued to Stitch et. al. ("Stitch"). This rejection is respectfully traversed. Claim 4 depends from claim 1 and includes all the elements of claim 1 including the elements of calculating an input power of a power supply system, and using the input power to regulate an output voltage. As indicated in the traversal of the 35 U.S.C. 103 rejection of claim 1, the combined '730 and '901 patents are deficient in making obvious these elements of claim 1. Combining the '730 and '901 patents with Stitch does not make up for these deficiencies of the '730 and '901 patents.

Similarly, claims 12 and 17 depend from respective claims 5 and 15 and include all the elements of these

respective claims. The deficiencies of the combined '730 and '901 patents relative to claims 5 and 15 are discussed in the traversal of the rejections thereof. Combining the '730 and '901 patents with Stitch does not make up for these deficiencies of the '730 and '901 patents. Accordingly, it is respectfully submitted that the combined relied on references can not make claims 4, 12, and 17 obvious.

D. Third 35 U.S.C. 103 Rejection:

Claim 14 was rejected under 35 U.S.C. 103 over the '730 patent in view of the '901 patent and further in view of U.S. patent no. 5,502,370 issued to Hall et. al. ("Hall"). This rejection is respectfully traversed. Claim 14 depends from claim 5 and includes all the elements of claim 5. The deficiencies of the combined '730 and '901 patents relative to claim 5 are discussed in the traversal of the 35 U.S.C. 103 rejection of claim 5. Combining the '730 and '901 patents with Hall does not make up for these deficiencies of the '730 and '901 patents.

E. Fourth 35 U.S.C. 103 Rejection:

Claim 13 was rejected under 35 U.S.C. 103 over the '730 patent in view of the '901 patent and further in view of U.S. patent publication no. 2002/0071301 of inventor Michael John Kinghorn ("Kinghorn"). This rejection is respectfully traversed. Claim 13 depends from claim 5 and includes all the elements of claim 5. The deficiencies of the combined '730 and '901 patents relative to claim 5 are discussed in the traversal of the 35 U.S.C. 103 rejection of claim 5. Combining the '730 and '901 patents with Kinghorn does not make up for these deficiencies of the '730 and '901 patents.

Accordingly, it is respectfully submitted that claim 13 is not made obvious by the combined relied on references.

The references cited but not relied upon were reviewed and are believed not to make obvious applicants' invention.

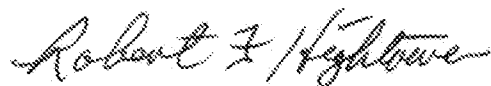
CONCLUSION

Applicant(s) made an earnest attempt to place this case in condition for allowance. In view of all of the above, it is believed that the claims are allowable, and that the case is now in condition for allowance, which action is earnestly solicited.

Although it is believed that no fees are due for this amendment, the Commissioner is hereby authorized to charge any fees that may be required or credit any overpayment to Deposit Account 50-1086.

If there are matters which can be discussed by telephone to further the prosecution of this Application, the Examiner is invited to call the undersigned attorney/agent at the Examiner's convenience.

Respectfully submitted,
Francois Lhermite et al., by



ON Semiconductor
Law Dept./MD A700
P.O. Box 62890

Phoenix, AZ 85082-2890

Robert F. Hightower
Attorney for Applicant(s)

Reg. No. 36163

Tel. (602) 244-5603

Customer #: 64296